

ABSTRACT**METHOD AND SYSTEM FOR INSPECTING WAFERS FOR ELECTRONICS, OPTICS
OR OPTOELECTRONICS**

The invention comprises a method for inspecting a wafer (2) for electronics, optics or optoelectronics, comprising:

- rotating the wafer (2) about an axis of symmetry perpendicular to a main surface (S) of said wafer,
- emitting, from at least one light source (20), at least two pairs of incident coherent light beams, each pair being arranged in order to form, at the intersection between the two beams, a respective measurement volume containing interference fringes having an inter-fringe distance different from that of another measurement volume,
 - at least a portion of the main surface (S) of the wafer passing through each of said measurement volumes during the rotation of the wafer,
- collecting a light beam scattered by the surface of the wafer,
- capturing the collected light and emitting an electrical signal representing the variation in the light intensity of the collected light as a function of time,
- detecting, in said signal, a frequency component, said frequency being the time signature of the passage of a defect through a respective measurement volume,
- for each detected signature, determining a parameter, called visibility of the defect, dependent on the inter-fringe distance of the respective measurement volume and the size of the defect,
- on the basis of the visibility determined for each measurement volume, obtaining a respective item of information on the size of said defect,
- cross-checking the items of information obtained for each measurement volume in order to determine the size of the defect.

Figure 5A